related hospitalization and patient follow-up was calculated based on data from statistics of the Hospital Remuneration System, the G-DRG hospital payment scheme and the office-based doctors' fee scale. The cost caused due to recovery and disability was estimated based on information from the Federal Statistical Office and data of the Federal Health Reporting. Experts were interviewed to provide follow-up resource use information. **RESULTS:** A total of 78,229 hospitalized leiomyoma-related cases were treated in year 2009. 80% were hysterectomies, 14% myomectomies and 6% were related to other therapies. Concerning the therapy cost per patient, hysterectomy reveals the highest therapy cost, (€5913) followed by myomectomy (€5793), UAE (€4675) and MR-HIFU (€4311). In a scenario without MR-HIFU the cost per case accrued to a total of €5840. The budget impact analyse targeting a patient group between 30 and 45 years of age, reveals a potential cost-benefit of €1529 per patient if MR-HIFU would be introduced in the SHI system. **CONCLUSIONS:** Our results suggest that MR-HIFU due to the administration in the outpatient sector, the low complication rate and the low disability cost should be considered as a cost-favourable alternative for the therapy of uterine fibroids.

PSU11

MEDICO-ECONOMIC ANALYSIS OF THE IMPACT OF MALNUTRITION ON THE POST-OPERATIVE COURSE OF COLORECTAL CANCER PATIENTS

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OBJECTIVES: The aim of this study was to assess the clinical and economic impact of malnutrition in post-surgery colorectal cancer patients. **METHODS:** We performed post-hoc analyses of the data collected in the Alves and al* prospective study. The following criteria for malnutrition were used: weight loss >10% in the 6 months pre-surgery and/or BMI<18.5 (pts <70 years) or <21 (pts ≥70 years). 2 groups (gps) were created a posteriori: Well-Nourished (WN) and Malnourished (MN) pts. Postoperative morbidity, mortality, hospital length-of-stay (LOS), and hospital discharge setting were compared between the 2 gps. Individual costs were valued using the French National Cost Study. We defined 3 scenarios: the most accurate estimate and the upper and lower possible limits of this estimate. The economic impact of malnutrition was assessed by calculating the difference in cost per hospital stay between MN and WN pts. **RESULTS:** A total of 762 pts were included in the analyses. Gps had the same characteristics, except more MN pts underwent emergent surgery. Complication rate was not significantly different between the 2 gps; mortality was higher in MN pts (7.4% vs. 4.1%, p=0.056) and MN pts had a mean LOS 3.1 days longer than WN pts (p=0.004). A greater proportion of MN pts could not be discharged and were referred to another facility (69.6% vs. 54.2%, p=0.027). Malnutrition impacts the cost per hospital stay by about 3154€ per patient (most accurate estimate), creating an annual impact of 9,572,770€ for French public hospitals. **CONCLUSIONS:** Malnutrition in colorectal cancer surgical pts is associated with a significant increase of LOS and delays returning home following hospitalization; both have significant budget impact. Prospective studies are needed to further investigate this impact and related cost-benefit of (specialized) nutritional support in this homogeneous category of patients.

PSU12

ESTIMATING COST AND RESOURCE USE FOR WHOLE BRAIN RADIATION VERSUS STEREOTACTIC RADIOSURGERY TREATMENTS AMONG BRAIN METASTASIS PATIENTS

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OBJECTIVES: To examine real world health care utilization (HCU) and costs associated with whole brain radiation therapy (WBRT) or stereotactic radiosurgery (SRS) as the initial or only treatment of brain metastasis (BrMets). **METHODS:** A retrospective longitudinal analysis utilized claims data from a national health insurer, identifying patients ≥18 yrs with ≥2 claims ≥7 days apart for BrMets (ICD-9 198.3x) from 1/2004-4/2010. The index date was first BrMts claim date. Pre-index period of ≥6 months and ≥1 month post-index enrollment (<1 month was permitted if due to death). Patients with primary brain cancers were excluded. HCU and all-cause per-patient per-month (PPPM) costs were examined. **RESULTS:** The study included 1,901 and 303 patients who received WBRT or SRS as first or only treatment, with 179d vs. 306d follow-up, respectively. Baseline Charlson comorbidity scores were similar. Mean age at BrMets diagnosis was higher for WBRT (59yrs) vs. SRS (57yr) [p-value=0.002]. Rates of HCU (events/person-month) were higher among WBRT vs. SRS patients for office visits (5.29 vs. 3.69), ER visits (0.25 vs. 0.17), and inpatient stays (0.26 vs. 0.17); rates of outpatient visits were lower among WBRT patients (2.31 vs. 3.24) [p-value<0.001]. Total costs PPPM were higher for the SRS ($20,682) vs. WBRT cohort ($16,909) [p-value=0.005]. Outpatient costs PPPM was the major cost-driver among the SRS cohort ($8,936, 43% of total) vs. $3,192 (19% of total) for WBRT. Office costs PPPM contributed most to overall cost among WBRT ($3,428, 20% of total) vs. $3,053 (18% of total) for SRS. Pharmacy costs PPPM were higher for the SRS ($1,232) vs. WBRT cohort ($692) [p-value <0.001]. **CONCLUSIONS:** BrMets patients with SRS incurred higher cost compared to WBRT patients. SRS is recommended for BrMets patients with ≤3 lesions and WBRT in >3 lesions may explain longer survival among SRS patients. Additional studies are augmented to understand differences.

PSU13

HEALTHCARE RESOURCES UTILIZATION AND ASSOCIATED COSTS WITH SURGICAL TREATMENT OF DUPUYTRENXS DISEASE IN SPAIN

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OBJECTIVES: To estimate the healthcare resource utilization and their associated costs secondary to fasciectomy of Dupuytren's disease treated according with usual medical practice in public hospital centers in Spain. **METHODS:** This multicenter, observational, retrospective cohort study, extracted data through the revision of medical records of three tertiary public hospitals. Each center should recruit 40 patients which were operated for Dupuytren's disease, as principal diagnose of Minimum Data Set, in which the surgical procedure conducted was fasciectomy, during 2007-2009. To collect all the resources consumed during surgery, a healthcare resource utilization form was designed. Demographic (age, gender, occupational status), clinical (time of evolution of the pathology and comorbilities) and healthcare utilization (hospitalizations, medical visits, test, and drugs) data were collected under medical routine. Unitary costs were provided by e-SALUD and BOT data base. **RESULTS:** A total of 123 subjects (86.2% men; 35.8% active workers) were identified. 17.8% of subjects were diagnose of Dupuytren before year 2000; 8.4% between 2000-2005 and 73.8% after 2006. 81.3% of patients had at least one comorbidity, being hypertension (45%) the most frequent. 71.6% of patients were hospitalized in orthopedist (75%) and plastic surgery unit. Mean(SD) length of hospital stay was 1.5(1.1) days. 28.4% there were operated in ambulatory surgery. All the patients had follow-up visits after surgery, 27% needed physical therapy, 88% performed preoperative tests and 8% visit the emergency room after surgery. Healthcare mean costs were as follows: fasciectomy €1074(0); hospitalizations €978(743); ambulatory €186(10); follow-up visits €260(173); emergency rooms €13(53); tests €132(121); drugs €7(9); physical therapy €46(134). Total cost for patients with Dupuytren's disease treated with surgery was €2304(825). There were no significant differences between the three centers analyzed; p=0.181. **CONCLUSIONS:** This evaluation suggest that healthcare resources utilization for surgical treatment for patients with Dupuytren's disease may cost €2,304(825) per surgery (fasciectomy) treated under usual medical practice in Spain.

PSU14

COMPLICATIONS AND COSTS ASSOCIATED WITH TUBAL LIGATIONS

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OBJECTIVES: To examine changes in post-tubal ligation complications and their associated costs over time. **METHODS:** Data were obtained from the US i3 Invision™ Data Mart. Data collected spanned the period from January, 2006 through March, 2010. CPT and ICD-9 codes were used to identify patients who received a tubal ligation as well as a post-tubal ligation complication. Patients were also subcategorized based upon year of tubal ligation (2007, 2008, or 2009) in order to examine if there were any noticeable trends over time. **RESULTS:** There were 15,169 women under age 50 who received a tubal ligation and had continuous insurance coverage in the 1 year post-tubal ligation. The mean age at tubal ligation was 35.26 years (SD=5.46) with 10.46% having tubal ligation at the time of a pregnancy. Overall, 21.68% (n=3,288) of women experienced at least 1 complication, with the most common being heavy menstrual bleeding (n=2,190, 14.44%) and surgical complications (n=729, 4.81%). When assessing changes in complications from 2007-2009, diagnoses of heavy menstrual bleeding (p=0.0003), sepsis (p=0.0392), surgical complications (p=0.0240), and any complication (p<0.0001) all showed statistically significant increases over time. Of all women who had a tubal ligation, charges associated with the tubal ligation did not increase significantly from 2007-2009; however, the charge associated with complications did show a statistically significant increase over the same time period. The average charge for women who experienced a complication (n=3,228) was $37,425 (SD=$68,249). **CONCLUSIONS:** A substantial number of women experience post-tubal ligation complications and the charges associated with these complications have increased significantly over time.

PSU15

THE ECONOMIC BURDEN OF POST-TRANSPLANT EVENTS IN RENAL TRANSPLANT PATIENTS IN UK, ITALY, NETHERLANDS, POLAND AND BELGIUM

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OBJECTIVES: There are limited data currently available regarding the prevalence of post-transplant events and associated resource utilization in renal transplant patients in clinical practice. This study aims to describe the healthcare resource utilization and costs of managing patients after renal transplantation, stratified by relative graft functioning status, using observational data from relevant databases and physician questionnaires from transplant centres across Europe. **METHODS:** Data from renal databases in Cardiff and Leuven University Hospitals have been analysed to assess 3-year post-transplant resource use in the UK and Belgium, respectively. Similar data have been derived from questionnaires administered in

multiple centres in UK, Italy, The Netherlands and Poland. For each country, published local costs have been applied to the resource use. Results have been stratified by glomerular filtration rate (GFR) at one-year post-transplant. **RESULTS:** Across these countries, the total three-year cost of post-transplant care varies depending on local treatment practices, from a minimum of €36,000 per patient in Poland to a maximum of €77,000 in the The Netherlands. Consistently across all countries, the average three-year costs decrease as a result of improved graft functioning status (increased GFR) at one year. The average three-year costs for a patient with a GFR≥45 at one year are 29% lower than those with <30GFR in the The Netherlands, 40% lower in Italy, 43% lower in Belgium, 50% lower in the UK, and 51% lower in Poland. **CONCLUSIONS:** This study demonstrates that in five European countries, worsening post-transplant renal function contributes to substantive increases in resource use, with some variation across regions. Therefore management strategies that promote renal function after transplantation are likely to provide important resource savings. Additional analyses are ongoing in Spain, Czech Republic, Hungary, Germany and Sweden to further confirm these observations.

PSU16

MINIMALLY INVASIVE SURGERY IN TOTAL HIP ARTHROPLASTY: A COST-EFFECTIVENESS ANALYSIS

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OBJECTIVES: The main objective of this study is to evaluate the cost-effectiveness of total hip arthroplasty through anterolateral minimally invasive surgery (MIS) and compare it with the traditional approach. **METHODS:** A study was conducted to compare traditional and minimally invasive surgical techniques for total hip arthroplasty in a population of 340 patients at two Spanish hospitals (the Virgen de las Nieves University Hospital of Granada and the Serranía de Ronda Hospital) during the year 2007. The design of the study was a prospective stochastic cost-effectiveness analysis, where effectiveness data were collected over a one-year period at individual patient levels and costs were gathered from the analytical accounting system of Virgen de las Nieves University Hospital. Effectiveness was measured in functional terms (clinical) and self-perceived quality of life (SF-12 survey) during the first 6 postoperative weeks. **RESULTS:** After 6 postoperative weeks, in comparison with the conventional technique, a pattern in improvements for MIS was observed for length of hospital stay (hospitalization time was 4.97 days shorter); for operative time (an average of 83.3 minutes for MIS patients and 97.8 minutes for the control group); and for average length of skin incision (9.83 cm. for the MIS group and 16.2 cm. for the control group). The total cost of THA with MIS was lower (4519.19 €) than the cost of traditional hip replacement (6722.46 €). Incremental effectiveness value in terms of quality of life was 0.11 points in the SF-12 survey for MIS. The cost-effectiveness analysis reveals a strong dominance of MIS versus traditional THA. **CONCLUSIONS:** The study showed that the minimally invasive technique reduces inpatient resource utilization and improves self perceived quality of life of patients compared with the traditional approach. The more beneficial incremental effectiveness ratio of MIS versus traditional THA supports the recommendation for expanded use of minimally invasive surgery.

PSU17

COST-EFFECTIVENESS OF DSAEK VERSUS PK FOR CORNEAL ENDOTHELIALDISEASE

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OBJECTIVES: To perform a comparative cost-effectiveness analysis of Descemet's stripping automated endothelial keratoplasty (DSAEK) and penetrating keratoplasty (PK) for corneal endothelial disease. **METHODS:** Systematic review of the peer-reviewed English literature through a search of PubMed to populate a 5 year model of a) quality adjusted life years (QALYs) associated with clinical outcomes of the relatively new DSAEK procedure and the long-established PK procedure, and b) third party payer (US Medicare 2010) costs associated with associated medical, surgical and pharmaceutical services. **RESULTS:** Five year follow-up focusing on standard therapy and complications yeilds 2.99 QALYs associated with DSEAK and 1.94 QALYs with PK, a difference of 1.05. Following slightly higher sugical costs of $US7925 for DSEAK and $US7544 for PK, total five year costs are $US10,104 associated with DSEAK and $US9840 with PK, a difference of $US264. The ICUR is $US251. Sensitivity analyses of differeing disc dislocation rates, astigmtism complication rates and cost parameters yield ICURs in the range of $US0 to $US500. **CONCLUSIONS:** Using the literature on outcomes and costs for treatments of corneal endothelial disease, a five year model yields robust results siggesting that DSEAK is slightly more expensive procedure than PK to third party payers, but with favorable quality adjusted life year resulting making DSEAK a cost-effective option under all scenarios considered.

PSU18

COST-UTILITY ANALYSIS OF LAPAROSCOPIC VERSUS OPEN SURGERY FOR COLORECTAL CANCER

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OBJECTIVES: To assess the comparative efficiency of laparoscopic versus open surgery in colorectal cancer patients. **METHODS:** To establish relative efficacy of laparoscopic versus open surgery in all measures that could have clinical or economic relevance. Using previous systematic reviews and updating their contents with the new information published after. Meta-analysis technique is used to summarize the information. A Markov model is developed to estimate progress in time of health and resource use obtained with these two alternatives. Measures of health outcomes used in the model were life years and quality adjusted life years. Probabilistic sensitivity analysis was performed to assess uncertainty in the parameters included in the Markov model. **RESULTS:** Preliminary results show that cost of laparoscopic-assisted surgery is higher than open surgery in close to 750 €. This difference decreased slightly in the immediate postoperative period due to the lower readmission rate. The difference in costs, coupled with the equivalence in long-term results obtained by the two techniques makes that any of them can be considered efficient for our health system. Since considering a willingness to pay between 20,000 and 30,000 € per quality-adjusted life year gained, none of the alternatives have above 60% chance to be the best option. **CONCLUSIONS:** The laparoscopic-assisted resection has shown results in terms of overall survival and recurrence similar to those achieved by open surgery in colorectal surgery patients. The estimated cost for laparoscopic intervention is slightly higher than open surgery, but seems to accelerate the postoperative recovery time. This implies that none of the two alternatives is clearly superior to the other in terms of efficiency. Therefore, each decision maker at hospital level will assess available human and material resources, and its cost structure to use resources more efficiently.

PSU19

THE DOORS-STUDY OF ON-PUMP VERSUS OFF-PUMP CORONARY ARTERY BYPASS GRAFTING: A POST HOC ANALYSIS OF METHODS FOR MULTIPLE IMPUTATION OF MISSING DATA IN ECONOMIC EVALUATION

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OBJECTIVES: A cost-utility analysis was conducted alongside the Danish On-pump Off-pump Randomization Study (DOORS) based on the intention to treat principle. **METHODS:** A post hoc analysis of the problem of missing data was addressed by multiple imputation using the conditional Gaussian as well as the chained equation approach. Both methods where applied using two different models (representing a data-driven respectively a clinical reasoning selection strategy). **RESULTS:** The cost-effectiveness acceptability curve for the complete case analysis (n=779) showed 88 % probability of OPCAB being cost-effective at a threshold value of £30.000 per QALY. In analyses based on the conditional Gaussians approach and the chained equations approach to multiple imputation the results was 73-75 %. **CONCLUSIONS:** The result of the previously published complete-case analysis of the cost-effectiveness of OPCAB versus CCABG was reinforced by this post hoc analysis of the uncertainty due to missing data. The analysis showed that the conditional Gaussian approach and the chained equations approach produced similar results Evidence about the long term cost-effectiveness of OPCAB versus CCABG is warranted.

Surgery – Patient-Reported Outcomes & Preference-Based Studies

PSU20

ESTIMATING PREFERENCES FOR ECONOMIC EVALUATION IN PATIENTS WITH LOCALIZED PROSTATE CANCER

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OBJECTIVES: The high variability on preferences estimates for prostate cancer could be explained by differences in methods, techniques and obtaining populations. Our aim was to estimate the preferences and willingness to pay of patients in the "Spanish Multicenter Study of Localized Prostate Cancer" at 5 years of follow-up, according to the treatment received (radical prostatectomy, external radiotherapy and brachytherapy). **METHODS:** Data analyzed were from the 5-year follow-up evaluation of the "Spanish Multicenter Study of Localized Prostate Cancer", in which patients completed the preference questionnaire. The estimation of preferences was conducted using the indirect method (from the SF-6D index), and the direct method using the Standard Gamble (SG) and Time Trade-Off (TTO) techniques. We also assessed the patients' Willingness-to Pay (WTP). The three treatment groups were compared using the Kruskall Wallis test. **RESULTS:** Of the 441 patients enrolled, 105 were treated with radical prostatectomy, 137 with external radiotherapy and 199 with prostate brachytherapy. Most patients were married or living with a partner (89.6%), were retired (76%) and had completed primary or secondary studies (53.5%). Utilities measured with the SF-6D showed no statistically significant differences by treatment group ($p = 0.356$). The utilities measured by TTO presented the greatest differences according to treatment: mean of 0.94 in the radical prostatectomy group, 0.99 in external radiotherapy and 0.98 in brachytherapy ($p < 0.001$). The willingness to pay also showed significant differences: mean of 58.4 € in the radical prostatectomy group, 32.04 € in external radiotherapy and 28.8 € in brachytherapy ($p < 0.01$). **CONCLUSIONS:** The estimates of preferences vary according to the method and the technique used to obtain them. Both the utilities obtained by the direct method and the ones through willingness to pay indicate that radical prostatectomy is the worst valued treatment, prostate brachytherapy being the most valued by patients with localized prostate cancer.

PSU21

SPEECH PROBLEM AND HEALTH-RELATED QUALITY OF LIFE IN HEAD AND NECK CANCER SURVIVORS AFTER FIVE YEARS OF TREATMENTS

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